Claims

1. An ink-jet printing process comprising the steps (a) and (b) in any order or simultaneously:

(a) applying an ink to a substrate by means of an ink-jet printer to form an image on the substrate; and

(b) applying to the substrate a fixing composition comprising a liquid medium and a polymer containing a plurality of monoguanide and/or biguanide groups by means of an ink-jet printer;

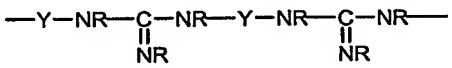
characterised in that in the fixing composition has a chloride concentration less than 400ppm by weight.

2. A process according to claim 1 wherein the fixing composition is applied to the substrate in a localised manner and the areas where the ink and composition are applied in steps (a) and (b) are substantially coextensive.

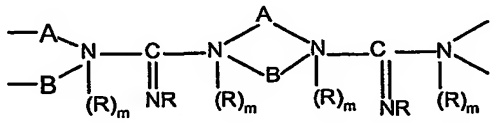
3. A process according to claim 1 or 2 wherein the polymer containing a plurality of monoguanide and/or biguanide groups is a polymonoguanide and/or a polymeric biguanide.

4. A process according to claim 1 or 2 wherein the polymer containing a plurality of monoguanide and/or biguanide groups is a polymonoguanide.

5. A process according to claim 4 wherein the polymonoguanide comprises a plurality of groups of Formula (1) and/or groups of Formula (2) or salts thereof:



Formula (1)



Formula (2)

wherein:

each m independently is 0 or 1;

each Y independently is a C_{3-18}-hydrocarbyl group;

A and B are hydrocarbyl groups which together comprise a total of 3 to 18 carbon atoms; and

each R independently is hydrogen, optionally substituted alkyl or optionally substituted alkoxy.

6. A process according to any one of the preceding claims wherein the polymonoguanide has been obtained by a process comprising melt polymerisation of a C_{3-18}-hydrocarbyl diamine with a guanidine salt other than guanidine hydrochloride.

7. A process for preparing a polymonoguanide comprising solvent or melt polymerisation of a C_{3-18}-hydrocarbyl diamine with a guanidine salt other than guanidine hydrochloride.

8. A process according to claim 7 wherein the polymerisation is melt polymerisation performed at a temperature of 100°C to 200°C.

9. A process according to claim 7 wherein the polymerisation is solvent polymerisation and the solvent has an octanol/water partition coefficient of between –1.5 and +1.

10. A process according to claim 7, 8 or 9 wherein the polymonoguanide has a chloride concentration less than 400ppm by weight.

11. A polymonoguanide obtained or obtainable by a process according to any one of claims 6 to 10.

12. A composition comprising:

(a) from 0.1 to 10 parts of polymer containing a plurality of monoguanide and/or biguanide groups or salt thereof ;

(b) from 0 to 10 parts of a binder;

(c) from 30 to 60 parts of a water-soluble organic solvent; and

(d) from 35 to 80 parts water;

wherein all parts are by weight and the total number of parts (a) + (b) + (c) + (d) = 100 and the composition contains less than 400ppm by weight of chloride ions.

13. A substrate printed with an image by means of the process according to any one of claims 1 to 6

14. A set of liquids suitable for use in an ink jet printer comprising:

(a) a fixing composition according to claim 12; and

(b) an ink comprising a colorant and a liquid medium.

15. An ink jet printer cartridge comprising a plurality of chambers and a set of liquids, wherein the liquids are contained in individual chambers of the ink jet printer cartridge and the set of liquids is as defined in claim 14.